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CURIOSITIES OF INDUSTRY AMONG THE LADIES.

I AM a solitary bachelor, leading a bachelor kind of life, which, like all other kinds of life, has its sweets and its —bitters I won't say—but its occasional acids. Well for me that the sweets predominate, and that I am generally inclined to acknowledge their predominance, and make the most of them. I am reclining in my easy-chair before the fire, which I have all to myself; if I enjoy it sometimes a little *à la Trollope*, what matters when nobody looks on? As I lean back, and lift my eyes, not *ad sidera*, but to the marble mantle-piece which crowns the comfortable fireplace, I behold a spectacle by no means either unusual or remarkable in itself, yet exceedingly suggestive to my fancy at this moment, because it conjures up a host of visions of a kind more or less similar, and pregnant with associations not undelightful to recall. That strip of marble slab, some nine inches by fifty in dimensions, upon which now stand a few time-worn and dingy ornaments, worthless in themselves, but invaluable from the memories they awaken, has been in its time the ground of how many patient experiments—the arena of how many innocent triumphs? For how many generations has the domestic mantle-piece been set apart for the exhibition of lady-like skill in the fashionable accomplishments of the day—accomplishments, some of them of a rather equivocal nature, it must be admitted, but interesting in many respects, and affording some curious illustrations of industry in a department which, though familiar to us all, no one, so far as I am aware, has condescended to treat of? Let me be allowed to supply this desideratum, so far as my recollections will suffice for the purpose; and permit me, with the mantle-piece for starting-place, to trace some of the operations of that peculiar species of domestic industry which is as much the subject of fashion as the dress of the fair operatives, and has undergone almost as many mutations and revolutions as feminine costume itself.

The custom of placing a large mirror upon the mantle-piece, now universally prevailing, is of very modern date. It appears, judging from prints of interiors by Hogarth and others, not to have begun so early as a century ago. Then, in houses pretending to gentility, a picture invariably occupied the space which the mirror fills now, and it is pretty certain that the custom was of long standing. There are many houses still existing, which formed part of old London before the Great Fire; and in these the pictures over the mantle-pieces yet remain, painted some of them on canvas let into the oak-mouldings, and some upon the wainscot itself—being included among the finishing

decorations of the building by the original architect. Many of these are of very little merit, but a vast number were painted by Van D'Este; some of whose works are excellent in point of composition and aerial perspective. They are even now so plentiful as to be bought at a low price—their odd shapes, they being of enormous width in comparison with their height, betraying the purpose for which they were painted, and depreciating their value. But even in those palmy days of popular art, the chimney-ornaments stood in front of the picture, just as at a later period they stood, and as they still stand, in front of the mirror. They were not, however, the work of the ladies of the house, but consisted chiefly of foreign rarities, mostly hideous and misshapen gods and idols, with cavernous mouths and corpulent stomachs, modelled in a dark-coloured earth—of imitation mummies and Egyptian deities, with the addition of any *lusus nature* that could be picked up, all piled heterogeneously on each side of a central bust of some ancient or historical personage. When the fashion changed, and the mirror supplanted the picture, the multiplication by reflection of all this rubbish—which, for the most part, had but one side fit for view—became offensive; and we observe that it gradually gave place to specimens of China and India ware, bearing a kind of shawl-pattern upon a greenish-white ground. In the days of our great-grandmothers, the possession of a collection of such foreign porcelain was regarded as an evidence of taste, and fabulous sums were given for fresh novelties as they were imported—from enormous punch-bowls and jar-like vases, to diminutive cups no bigger than a tailor's thimble. The mania for this species of goods at that time had an important effect upon our commerce in the East; and there must be something fascinating to a large class in articles of this kind, for to the present day the traffic in them forms a good part of the business of the curiosity-shops. The purchasers, as I have reason to know, are generally people who are well to do, and on the shady side of sixty. Josiah Wedgwood, by the production of his elegant and classical wares, did much to banish the old china from the mantle-piece; but his master-pieces were too expensive for general use; and while they helped to improve the public taste in the matter of chimney-ornaments, they but partially supplied the wants they generated. Now it was that the ladies first came to the rescue, and, taking the mantle-piece under their peculiar charge, commenced a course of experiments and a series of exhibitions, whose several epochs, if one could mark them correctly, would be found as distinctly defined as those of any of the existing or extinct dynasties of Europe with which they have been contemporaneous.

I have no doubt that I was born during the foreign china and punch-bowl era, and I have a distinct recollection of the punch-bowl itself, and the silver punch-ladle, with a guinea let into the bottom of it, and having a handle of twisted whalebone, with which my honoured parent used to ladle out the inspiring beverage. But the first mantle-piece upon which I ever cast a gaze of consciousness, had upon it for central ornament a marvellous grotto, built up of sea-shells by the fairy hand of a female cousin; and it was flanked by shells of larger capacity, shaped like monster periwinkles, from which the outer deposit of lime and marine matter had been burned off by the action of aquafortis and spirits of salts. This was the era of shell-cleaning, when the ladies burned the skin off their fingers and holes in their dresses, in developing the mysteries of conchology by the aid of fiery spirits, and the destruction of innumerable tooth-brushes. That pungent odour of spirits of salts is in my nostrils yet, and I never smell it without thinking of the battle of Vittoria, which was fought in that era, and the news of which reached us on the day of a grand triumph achieved by the female cousin aforesaid, who had converted into one huge pearl a mammoth American oyster.

The shells and grottoes enjoyed no very durable reign, but gave place, in a few years, to a succession of ephemeral attempts in the natural-history line. Birds of paradise spread their gorgeous tails to the dust, and the dust ruined them in the course of a single summer. The ladies took to stuffing English birds, and exhibiting them in little black boxes with glass fronts; but that process was not considered lady-like, and was surrendered to the barbers and the professors of the art. Something was done in inflated fish-skins, something in gigantic beetles and gaudy butterflies, something in varnished lizards glued to a mossy stone; but nothing of importance was achieved, and so that unsettled era passed away. It was immediately followed by a very brief period of marvels in straw, by which beasts, birds, and landscapes were imitated by a kind of mosaic-work of coloured straws and dried weeds cut into infinitesimal portions. Concurrently with this, came the practice of painting with sands of all tints from Allum Bay. A donkey and panniers painted with sand upon a piece of card-board, and mounted on a little black stand, was accounted a master-piece. Those who could not get over the donkey, could make a cottage, or fill a bottle with coloured sands in wavy strata. The sands ran out, if we remember rightly, about the period of the battle of Waterloo.

With the peace that followed, came more liberal notions of art in connection with chimney-ornaments; and now first dawned the important era of hand-screens. Shaped, as everybody knows, like an open fan, with a long central handle, they presented, upon their virgin milkwhite surfaces, an inviting space for the display of female accomplishments. They came rapidly and universally into vogue. Every lady who could draw, drew her best upon the creamy sheet: she who could paint, painted; and, if the truth must be told, it sometimes happened that she who could do neither, attempted both. Declining such attempts, others mounted the screens with coloured prints, or with the works of water-colour artists, and decked them with gold and silver ornaments, or inscribed them with verses original or select. Screens were the idols of the day; they stood upon every mantle-piece, and the materials for their manufacture were to be found in perplexing abundance among the stocks of every fancy-stationer. They might be bought in every stage of progress—from the blank-sheet of card-board, to the painted and ornamented screen; and you might lavish any sum upon a pair of handles, from eighteen-pence to a couple of guineas. In spite of the conventional group of flowers, consisting of that venerable damask rose, with white ditto, and lily of the valley, they were many of them

really pretty things; and they did us a little domestic service, by giving some flavour of art to the pursuits of our home industry. They lasted long; and if they have at length gone out as a fashion, the materials for their fabrication may still be procured at the fancy-stationer's among his dead-stock.

The hand-screens naturally suggested the card-racks and letter-cases, which—neatly trimmed with pink or sky-blue ribbon, enframing a bunch of tender violets half hidden in green leaves, or a cluster of delicate snow-drops, or perhaps a primrose with its crumpled leaf—sometimes formed a handsome and not unsuggestive present to some bachelor friend. The era of hand-screens, card-racks, &c., was in its glory, when, about the time of the trial of Queen Caroline, some considerate and compassionate genius, taking pity upon that portion of the sex who could never hope to draw, through natural incapacity, invented the art and mystery of Poonah-painting. There is, strictly speaking, no art in the practice of this style of painting, and very little mystery; and what there is, is stolen from the stencilion. As then practised, it consisted mainly in a series of dusty, smutty operations with powdered black-lead upon white card-board. The pictures were produced by means of dry brushes and stumps, and were all of a striking and portentous character, or they were nothing: they were mostly of an earthquaky complexion, and were for some time the rage with the broken-hearted young ladies of the Byron school, then a very numerous class. Sometimes the subject was a white dove perched on a withered branch, beneath a thunder-cloud as black as Erebus—only, as the fair artists did not draw, but cut the dove from a print with scissors, stuck it on the paper, and scrubbed in the cloud around it, it would happen, through a slip or two in the cutting, that the dove became a duck or a goose, when the effect was not so sentimental. Sometimes the subject was an old stone-cross on a blasted heath, with the black thunder-cloud in the background; but whatever the subject, the thunder-cloud had to be there, or there could be no picture at all. It is impossible to conceive the extent of the mania for this marvellous accomplishment which existed about thirty years ago. The proprietor of a large paper-mill, in the neighbourhood of my then residence, assured me that it had increased the demand for card-board full 200 per cent.—that he had applied the whole resources of his mill, which had been long famous for the manufacture of Bath-post, to the production of card-board, and had only succeeded in meeting the demand by inventing a mode of casting it at once without the necessity of pasting the sheets together. The art was taught in three lessons for a guinea, and for a time the professors grew fat and puffy; but it fell into disrepute almost as suddenly as it rose, partly owing to the fact, that the pictures would not keep, being destroyed by contact with anything; and partly from the conviction, which arose by degrees, that they were not worth keeping. Poonah-painting in another form, and by means of permanent colours, afterwards struggled into birth: it professed to be a royal road to art; but nothing artistic came of it, and that, too, declined.

Next came a series of alarming experiments in the manufacture of artificial rocks, the production of which was a tantalising mystery to the uninitiated. Suddenly the mantle-pieces appeared loaded with little piles of angular rocks, surmounted by a pasteboard tower or turret filled with paper-lights, or pierced to do duty as a clock-tower. There were inkstands imbedded in jagged rocks, flower-vases of rocks, and baskets in abundance formed of rocky crystals. When the secret got wind, it was found that they were produced by immersing a wire framework of the object desired in a strong solution of alum, and chemically precipitating the alum, which clung in grotesquely-shaped crystals

to the wire, and the work of art was complete. But in a little time the crevices of the rocks were filled with dust, and to wash them clean was to melt them away; and so away they all went, banished to upstairs rooms and cupboards on landing-places. The vacancies they left were speedily filled by castles, martello-towers, &c., flaming in azure and gold; old gateways and sham ruins, elaborately contrived as receptacles for the everlasting paper-lights, which were now industriously cut, curled, and spirally bound with tinsel, and bundled together in castle or fortress, with their party-coloured heads peeping over the battlements.

After that, Japanning came into fashion, and every enterprising young lady felt bound to japan her own dressing-case, work-box, writing-desk, and so on. Plaster of Paris and whiting littered the drawing-room and the boudoir; China-ink and crystal varnish were at a premium; and for some time there was a decidedly Oriental character pervading the paraphernalia of female industry. These productions, which could not be attempted by everybody, were rivalled by ingenious paper-cuttings, which crept by degrees over picture-frames, mirrors, and vases, which they covered like parasitical plants, and served the double purpose of preserving the gilding and exhibiting the ingenious fancies of the fair artists. How many years the changes were rung upon these and similar modes of industrious ornamentation, I do not care to specify. How the japanning was succeeded by the rage for papillons, to which whole holocausts of moths and butterflies were sacrificed—how the spread of geological science brought in a mania for fossil remains—how these were supplanted by imitations of Etruscan ware—and these, again, by the modelling of flowers in wax, and the patient maceration of flowers and plants, and the bleaching and stiffening of their exquisite anatomies, and how worthy triumphs have been won by the talented and the persevering in these last-mentioned pursuits; all this would be long to tell, and need hardly be told to readers of the present day. It is time now that I turn my face from the mantle-piece, and the host of industries it recalls to my mind's-eye, and look around upon another, but still an analogous class of pursuits, which kept pace with them. But I must be brief.

Our great-grandmothers, with the devotion of so many Penelopes, glued themselves to the embroidery-frame. The fruits of their life-long labours, in dim and dusty decadence, still survive in moth-eaten tapestries, in faded hangings, and on the bottoms of superannuated chairs and ottomans. Another kind of embroidery arose a generation later: it consisted of raised images in silk threads of a brilliant colour upon a satin-ground; many splendid examples of which still remain enshrined in the cabinets of elderly dames. These things were before my time, and I know nothing of them but by tradition. My earliest sympathies with ornamental needle-work are associated with the exploitation of lace-veils, tuckers, and collars by a bevy of five sisters, to whom I had the privilege of being younger brother. How many patterns have I traced against the window-pane with pencil, and afterwards blackened with pen and ink, when I was a good boy and a 'dear!' And how many have I peremptorily refused to touch when, having got a 'crick in the neck,' I grew sick of it, and was 'a crabbed spite?' I feel some remorse, I confess, as these questions arise. I don't think the lace-veils and tuckers, collars and all that, have died out, or ever will entirely; but the next thing that came up was the netting, with the big balls of cotton-thread and the long ivory pins with bobs at the end, which resulted in no end of window-curtains, &c. The netting bade fair to monopolise the entire energies of the ladies, when all at once arose the glass and steel bead epidemic. This occurred just before the passing of the Reform Bill, and its advent was really a tremendous

visitation. Then it was that 'every lady in the land' went suddenly mad for beads—the disease was universal, like the plague entomological in Egypt—not a family escaped the infection. From inquiries I made at the time, I can state with certainty that beads rose with the manufacturers 65 per cent. in value, and they were sold retail by millions and thousands of millions at a profit of 250 per cent. upon the advanced cost. Still, there were not enough in the market; and in numberless cases the dear ladies were vexing and grieving for the want of them, or sallying forth in all weathers to hunt them up at any price however extravagant. Their first use was in the manufacture of bracelets, for which innumerable patterns were sold in the shops. The bracelet could be worked in two modes—either by sewing the beads on a cloth ground, was a simple process enough, or by elaborately netting them together in a small frame by means of mohair and hair-needles, which was an exploit of far more labour and difficulty; but, inasmuch as it exhibited the pattern on both sides, resulted in a product of greater value. From bracelets, the bead-work extended to purses; and from purses, to reticules and bags. The fever then began to abate its virulence, and prevails at the present moment only as an intermittent and perfectly manageable disease.

The Berlin-wool school of art succeeded the bead-work. It was decidedly an advance upon the merely mechanical labours of its predecessor. As a bachelor, I feel bound to speak a word in its praise, if only in gratitude for the elegant pair of slippers which bedeck my toes with all the hues of the rainbow, and enable them to bid defiance to chilblains. I ought to add a word of praise, too, to some neat performances in perforated card-board, sent by my favourite niece to serve the purpose of book-markers; but there is but small space remaining to me, and I must hasten to notice the great Crochet invasion, which, some seven years back, burst like a flood upon the land. When I think of crochet, I am positively in a quiver. Though a bachelor, I have fourteen nieces, and of course they all crochet. The dear girls have deluged me with the fruits of their labours. My head rests at this moment upon a crocheted anti-macassar; I cut my bread from a crocheted bread-cloth; and I cut my cheese from a crocheted cheese-cloth. I sleep under a crocheted coverlet beneath a crocheted canopy; I open my dressing-case upon a crocheted table-cover, and set my shaving-dish upon a crocheted doily. My house-keeper walks off to church on a Sunday afternoon in a crochet-bonnet, her neck encircled by a crochet-tucker, and her somewhat passé face shaded from the sun by a crochet-veil; and I am myself threatened by that merry minx, Margaret Manby, with crochet-frills to my next set of shirts. Of course, being only a bachelor, I cannot enumerate half the doings in crochet; and for this I feel grateful, especially as abundance of information on the subject is to be obtained from other sources by those who want it. There is, as all the world knows by this time, a voluminous library of crochet literature in existence. I confess to having looked into some of the volumes as a matter of curiosity; but they are worse than Greek to me, and I can make nothing of them. They are numerous enough, however, to shew that the cause of crochet maintains a considerable staff of writers; and, looking to the lavish illustrations of artists and engravers, I am sometimes puzzled to think what the antiquaries and archaeologists, of a thousand years hence, when poring over the relics of Victoria's reign, will be likely to make of these volumes, if they should chance to light upon them, and what sage theories of explanation they may give rise to. But I must not indulge in these fancies.

Were I just now in a prophetic mood, I might prognosticate the decline and fall of the empire of Crochet, from definite signs and symbols which have lately risen in the horizon. What if I should insinuate that the

whole female world is on the point of abandoning the beloved boar's-eye, and rushing headlong into the arms of Potichomanie? Should I be pronouncing a true prophecy? Really, I hardly know what to reply; but this much I do know, and I hasten with all affection to communicate it to my fair friends. Potichomanie has come among us, and is supposed to have been communicated from a foreign vessel which omitted to perform quarantine. It has suddenly broken out in various parts of London, and is observed to prevail in the most aggravated form in those pleasant districts where ladies most resort. In these quarters, glass-pots are the order of the day—pots of all shapes, cylinders, globes, goblets, beakers, flagons, vases lank and lean, long and short, graceful and stout, dropical and pot-bellied, or slender and slim, classically Greek and Roman, anciently Ninevite and Egyptian, or corruptly and unmistakably British. These it is the function of Potichomanie to transform into unrivalled treasures of skill. The ladies have only to line them with patterns cut from coloured chintz, and ingeniously dove-tailed together, to produce a new species of ceramic art, which promises to surpass all that ancient or modern times have accomplished. The thing is as easy as fibbing. The shopkeepers, good souls! have removed all difficulty. A pair of scissors, a few pots of varnish and adhesive mixtures, and a few brushes with dislocated necks, contrived to spread and plaster round a corner: these things, with a yard or two of gaudy chintz, and that ardent and fervid genius which all ladies are known to possess, are sufficient to insure the mastery of the whole mystery. Success to Potichomanie! May it prove a curable endemic!

I do not feel called upon to make any reflections upon the above curious matters, which stand confessedly out of the pale of my judgment, and of which it will be seen I know practically very little; but yet a remark or two may not be ill-timed or out of place. Were I disposed to be ill-naturedly satirical, I might congratulate my fair fellow-countrywomen upon the leisure they find for these various employments in addition to the fulfilment of all the obligations which woman owes to the world; but I am not disposed that way, and I do not see in the pursuit of any occupation which happens to be temporarily the mode, frivolous though it may appear, the evidence of positive neglect of serious duties. The instinct to be doing something—producing something—is a natural instinct, and is often as strong or stronger in those who are not under the necessity of working for their livelihood as in those who are. It is much better that this instinct should be countenanced and indulged, than that it should be stifled; but what I would deferentially submit is, that very possibly it might be trained to a more lofty and efficient purpose, and made subservient to ends of more importance, than are achieved through the inundation of our dwellings, or the dwellings of our friends, by an everlasting tide of crochet-work, or overloading our mantle-pieces and drawing-room tables by the miracles of Potichomanie.

HORACE GREELEY.

FROM occasional notices in these pages, it may be known that the *Tribune*, one of the leading newspapers in New York, is edited by Horace Greeley, a person of some notoriety in the United States. To satisfy public curiosity, as well as to furnish a biography in some respects exemplary to youth, a memoir of Greeley has lately been written by one of his admirers, Mr J. Parton, from whose volume we may draw a few particulars illustrative of the early struggles and career of a man of whom something should be known in Europe.

Like Franklin, Greeley is a New Englander. He sprang from a hardy race of small farmers in New

Hampshire, in which state, in the town of Amherst, he was born in 1811. In due time he was sent to the district school, where he received nearly all his education. It was not much, but he at least learned to read; and with this acquisition he soon stored his mind from every book that came in his way, including a weekly newspaper; 'and that newspaper probably had more to do with the opening of the boy's mind, and the tendency of his opinions, than anything else.' His thirst for reading was altogether insatiable. He scoured the country for books; he read every spare minute of the day. When other children were amusing themselves, he was poring over a book. In the midst of these efforts at self-instruction, and while Horace was only in his seventh year, misfortunes overtook the family. 'The way to thrive in New Hampshire was to work very hard, keep the store-bill small, stick to the farm, and be no man's security. Of these four things, Horace's father did only one—he worked hard.' He speculated, became security, and, as these were jolly days, he kept a good cellar—all contributing to a final catastrophe. Everything was lost; and after an ineffectual struggle, the family quitted the state and went to Vermont, where the father found employment for the support of his wife and children. We need not pursue the family fortunes, which did not subsequently improve much, but follow those of Horace, who, when a lanky boy of fourteen, set off for the town of East Poughkeepsie, to offer himself as an apprentice to a printer. His thin and poor appearance was greatly against him; but after some hesitation, he was taken on trial by Amos Bliss, publisher of a newspaper in the place. The curtain which hung over Greeley's destiny now rises. We see him go to work like a hero.

'The new apprentice,' says Mr Parton, 'took his place at the font, and received from the foreman his "copy," composing-stick, and a few words of instruction, and then he addressed himself to his task. He needed no further assistance. The mysteries of the craft he seemed to comprehend intuitively. He had thought of his chosen vocation for many years; he had formed a notion how the types *must* be arranged in order to produce the desired impression, and, therefore, all he had to acquire was manual dexterity. In perfect silence, without looking to the right hand or to the left, heedless of the sayings and doings of the other apprentices, though they were bent on mischief, and tried to attract and distract his attention, Horace worked on, hour after hour, all that day; and when he left the office at night, could set type better and faster than many an apprentice who had had a month's practice. The next day, he worked with the same silence and intensity. The boys were puzzled. They thought it absolutely incumbent on them to perform an initiating rite of some kind; but the new boy gave them no handle, no excuse, no opening. He committed no greenness, he spoke to no one, looked at no one, seemed utterly oblivious of everything save only his copy and his type. They threw type at him, but he never looked around. They talked saucily at him, but he threw back no retort. This would never do. Towards the close of the third day, the oldest apprentice took one of the large black balls with which printers used to dab the ink upon the type, and remarking that in his opinion Horace's hair was of too light a hue for so black an art as that which he had undertaken to learn, applied the ball, well inked, to Horace's head, making four distinct dabs. The boys, the journeymen, the pressman, and the editor, all paused in their work to observe the result of this experiment. Horace neither spoke nor moved. He went on with his work as though nothing had happened; and soon after went to the tavern where he boarded, and spent an hour in purifying his dishonoured locks. And that was all the fun the boys got out of their new companion on that

occasion. They were conquered. In a few days, the victor and the vanquished were excellent friends.'

Never losing an opportunity of extending his knowledge, young Greeley continued to improve himself as an apprentice; read hard, attended debating-societies, attached himself to politics, and acquired a determinate religious faith, which has stuck to him through life. In time, he became the first-hand in the printing-office; wrote papers; and, though still a lad, sometimes acted as editor. At length, in 1830, the concern was broken up; and in the fifth year of his apprenticeship, he was sent adrift to seek for work from whomsoever would employ him. 'His possessions at this crisis were—a knowledge of the art of printing, an extensive and very miscellaneous library in his memory, a wardrobe that could be stuffed into a pocket, twenty dollars in cash, and—a sore leg.' This last acquisition originated in an accidental injury, and troubled him for some time. Cured of his lameness by medical care and temperance, Horace again wanders over the world in quest of employment, taking a 'bee line' through the woods for Erie, a town prettily situated on the lake of that name. Here the weary pedestrian, in wretched attire, and with his wardrobe carried in a red pocket-handkerchief slung over his stick, betook himself to the office of the *Erie Gazette*, and asked Mr Sterritt, the proprietor, if any help was required. At first rejected on account of his appearance, he was afterwards employed, and speedily came into favour. 'He is remembered there as a remarkably correct and reliable compositor, though not as a rapid one; and his steady devotion to his work enabled him to accomplish more than faster workmen. He was soon placed by his employer on the footing of a regular journeyman, at the usual wages—twelve dollars a month and board. All the intervals of labour he spent in reading. As soon as the hour of cessation arrived, he would hurry off his apron, wash his hands, and lose himself in his book or his newspapers—often forgetting his dinner, and often forgetting whether he had his dinner or not. More and more he became absorbed in politics. It is said by one who worked beside him at Erie, that he could tell the name, post-office address, and something of the history and political leanings of every member of Congress; and that he could give the particulars of every important election that had occurred within his recollection, even, in some instances, to the county majorities. And thus, in earnest work and earnest reading, seven profitable and not unhappy months passed swiftly away. He never lost one day's work. His better fortune made no change either in his habits or his appearance; and his employer was surprised, that month after month passed, and yet his strange journeyman drew no money. Once Mr Sterritt ventured to rally him a little upon his persistence in wearing the hereditary homespun, saying: "Now, Horace, you have a good deal of money coming to you; don't go about the town any longer in that outlandish rig. Let me give you an order on the store. Dress up a little, Horace." To which Horace replied, looking down at the outlandish rig as though he had never seen it before: "You see, Mr Sterritt, my father is on a new place, and I want to help him all I can." However, a short time after, Horace did make a faint effort to dress up a little; but the few articles which he bought were so extremely coarse and common, that it was a question in the office whether his appearance was improved by the change or the contrary.'

Quitting this situation, Greeley resolved on trying his fortune in New York, in which city he arrived in August 1831, bringing with him a capital of ten dollars in cash, and the well-known old bundle on the end of his stick. 'New York,' says our authority, 'was, and is, a city of adventurers. Few of our eminent citizens were born here. It is a common boast among New Yorkers, that this great merchant,

and that great millionaire, came to the city a ragged boy, with only three-and-sixpence in his pocket; and now look at him! In a list of the one hundred men who are esteemed to be the most successful among the citizens of New York, it is probable that seventy-five of the names would be those of men who began their career here in circumstances that gave no promise of future eminence. But among them all, it is questionable whether there was one who on his arrival had so little to help, so much to hinder him, as Horace Greeley.' He had neither friends nor acquaintances in the city. 'There was not a human being upon whom he had any claim for help or advice. His appearance was all against him. He looked in his round jacket like an overgrown boy. No one was likely to observe the engaging beauty of his face, or the noble round of his brow under that overhanging hat, over that long and stooping body. He was somewhat timorous in his intercourse with strangers. He would not intrude upon their attention; he had not the faculty of pushing his way, and proclaiming his merits and his desires. To the arts by which men are conciliated, by which unwilling ears are forced to attend to an unwelcome tale, he was utterly a stranger. Moreover, he had neglected to bring with him any letters of recommendation, or any certificate of his skill as a printer. It had not occurred to him that anything of the kind was necessary, so unacquainted was he with the life of cities.'

For days the forlorn stranger wandered from office to office offering his services, but without success; returning wearied and footsore every night to the humble boarding-house where he had found a shelter. A Sunday intervenes; he goes to church, and is cheered with a sermon which accorded with his religious views. The subject was the benignity of the Deity. He goes home to his lodgings in an exceedingly happy frame of mind. 'In the afternoon, as if in reward of the pious way in which he spent the Sunday, he heard news which gave him a faint hope of being able to remain in the city. An Irishman, a friend of the landlord, came in the course of the afternoon to pay his usual Sunday visit, and became acquainted with Horace and his fruitless search for work. He was a shoemaker, I believe, but he lived in a house which was much frequented by journeymen printers. From them he had heard that hands were wanted at West's, No. 85 Chatham Street, and he recommended his new acquaintance to make immediate application at that office. Accustomed to country hours, and eager to seize the chance, Horace was in Chatham Street, and on the steps of the designated house, by half-past five on Monday morning. West's printing-office was in the second story, the ground-floor being occupied by M'Elrath and Bangs as a bookstore. They were publishers, and West was their printer. Neither store nor office was yet opened, and Horace sat down on the steps to wait.'

This patience was rewarded. Greeley was taken on as a hand; the work he was put to being the composition of a Polyglot Testament. 'Horace worked through the day with his usual intensity, and in perfect silence. At night, he presented to the foreman, as the custom then was, the "proof" of his day's work. What astonishment was depicted in the good-looking countenance of that gentleman, when he discovered that the proof before him was greater in quantity, and more correct than that of any other day's work which had yet been done on the Polyglot! Thenceforward, for several months, Horace worked regularly and hard on the Testament, earning about six dollars a week.'

He had got into good company. There were about twenty men and boys in the office altogether, of whom two have since been members of Congress, three influential editors, and several others have attained distinguished success in more private vocations. Most of them are still alive: they remember vividly the

coming among them of Horace Greeley, and are fond of describing his ways and works. Horace worked with most remarkable devotion and intensity; his task was difficult, and he was paid by the "piece." In order, therefore, to earn tolerable wages, it was necessary for him to work harder and longer than any of his companions; and he did so. Often he was at his case before six in the morning; often he had not left it at nine in the evening; always he was the first to begin and the last to leave. In the summer, no man beside himself worked before breakfast, or after tea. While the young men and older apprentices were roaming the streets, seeking their pleasure, he, by the light of a candle, was eking out a slender day's wages by setting up an extra column of the Polyglot Testament.

At first, the workmen in the office took pleasure in playing tricks on Greeley, whom they imagined to be a kind of simpleton; but his imperturbability and good-humour under all these petty persecutions at length made every one his friend. He continued to work as a journeyman for fourteen months. About the end of this period, he became acquainted with a Mr Story, with whom he entered into partnership, and began in a small way of business. The first speculation of the firm was a cheap newspaper, called the *Morning Post*, which was started on the 1st of January 1833. Not proving successful, it was soon given up; and the concern for some time relied on miscellaneous printing. Greeley, meanwhile, acquired expertness as a paragraphist and writer of newspaper articles, and was thus prepared for another important literary venture. In March 1834, he began the *New Yorker*, which met with better success than the *Post*, and was marked with some good writing. It gradually became the authority in the department of political statistics. One of the boldest of Greeley's papers in the *New Yorker* is said to have been one on the 'Tyranny of Opinion'—a somewhat dangerous subject to touch upon in America. A few passages from this article may here be given, as a sample of editorial courage.

'The great pervading evil of our social condition is the worship and the bigotry of Opinion. While the theory of our political institutions asserts or implies the absolute freedom of the human mind—the right not only of free thought and discussion, but of the most unrestrained action thereon within the wide boundaries prescribed by the laws of the land—yet the *practical commentary* upon this noble text is as discordant as imagination can conceive. Beneath the thin veil of a democracy more free than that of Athens in her glory, we cloak a despotism more pernicious and revolting than that of Turkey or China. It is the despotism of Opinion. Whoever ventures to propound opinions strikingly at variance with those of the majority, must be content to brave obloquy, contempt, and persecution. If political, they exclude him from public employment and trust; if religious, from social intercourse and general regard, if not from absolute rights. However moderately heretical in his political views, he cannot be a justice of the peace, an officer of the Customs, or a lamp-lighter; while, if he be positively and frankly sceptical in his theology, grave judges pronounce him incompetent to give testimony in courts of justice, though his character for veracity be indubitable. That is but a narrow view of the subject which ascribes all this injustice to the errors of parties or individuals; it flows naturally from the vice of the age and country—the tyranny of Opinion. It can never be wholly rectified until the whole community shall be brought to feel and acknowledge, that the only security for public liberty is to be found in the absolute and unqualified freedom of thought and expression, confining penal consequences to *acts* only which are detrimental to the welfare of society. The philosophical observer from abroad, may well be astounded by the gross inconsistencies which are

presented by the professions and the conduct of our people. Thousands will flock together to drink in the musical periods of some popular disclaimer on the inalienable rights of man, the inviolability of the immunities granted us by the constitution and laws, and the invariable reverence of freemen for the majesty of law. They go away delighted with our institutions, the orator, and themselves. The next day, they may be engaged in lynching some unlucky individual who has fallen under their sovereign displeasure, breaking up a public meeting of an obnoxious cast, or tarring and feathering some unfortunate lecturer or propagandist, whose views do not square with their own, but who has precisely the same right to enjoy and propagate his opinions, however erroneous, as though he inculcated nothing but what every one knows and acknowledges already. The shamelessness of this incongruity is sickening; but it is not confined to this glaring exhibition. The sheriff, town-clerk, or constable, who finds the political majority in his district changed, either by immigration or the course of events, must be content to change too, or be hurled from his station. Yet what necessary connection is there between his politics and his office? Why might it not as properly be insisted that a town-officer should be six feet high, or have red hair, if the majority were so distinguished, as that he should think with them respecting the men in high places, and the measures projected or opposed by them? And how does the proscription of a man in any way for obnoxious opinions differ from the most glaring tyranny?'

This brave little newspaper lasted seven years, and was given up in consequence chiefly of pecuniary losses. 'On an average, 1200 dollars a year were lost by the removal of subscribers to parts unknown, who left without paying for their paper.' Other literary ventures were tried; one of them being the *Log-Cabin*, which was finally, in 1841, merged in the *Tribune*—a paper of the Whig school of politics, price one cent. This was a great and trying effort to establish a cheap press; and it was successful. It was at first acrimoniously persecuted, and that helped it materially. 'FIGHT was the word with it from the start; FIGHT has been the word ever since; FIGHT is the word this day.' Increased, subsequently, in dimensions, and raised in price to two cents, the daily *Tribune* attained a wide popularity—not, we should imagine, among the masses, but those classes who are generally in advance in matters of opinion. Much of the volume before us is devoted to an account of Greeley's editorial labours in connection with the daily, weekly, and semi-weekly *Tribune*, for the paper assumes various shapes. Into the minutiae of this part of his career we do not intrude, as it can have little interest for English readers. Neither is it necessary to say anything of Greeley's visit to Europe, to see the Exhibition of 1851. In the present day, his paper, aided by Mr Dana and other collaborateurs, is found about the top of the tree—the only paper, we believe, which has reached a higher circulation in New York being the *Herald*, edited by Mr Bennet. In 1848, Mr Greeley sat for some months as a representative in Congress, where he acted an honest, though not conspicuous, part. Latterly, he has diversified his editorial labours with rambles about the country, lecturing principally on subjects which point to social improvement. His biographer informs us, that few men of his time have written so much, or shewn such indomitable energy and perseverance. 'During the last ten years or more, Horace Greeley has influenced a greater amount of thought, and a greater amount of characters, than any other individual who has lived in this land. At a rough calculation, he has written and published, during his editorial career, matter enough to fill 150 volumes.'

Candidly considered, however, Greeley, with many merits, is far from being so great a man as he is

represented to be by his admirers. Persevering, good-humoured, and perfectly sincere and upright, he still belongs to the family of the 'wrong-heads.' In a peculiarly graphic and uncompromising way, he sticks to exploded views in political economy; and weekly demonstrates that free-trade is the ruin of nations. As regards England, he seems to think it is going rapidly downhill by abandoning a protection policy. The late distresses among American workmen he imputes to the low tariff on imports; and with similar logical precision, the impoverished and almost anarchical condition of Turkey is ascribed, not to vicious social usages, and an effete system of government, but to the purchase of cheap British manufactures—England, of course, having pursued a far-sighted selfish policy to bring about these results. On teetotalism and Maine Law, he goes beyond ordinary writers; and, as may be supposed, gives no quarter on the subject of slavery. Eccentric and extreme as may be some of his views, and with a constitutional disposition to slovenliness in attire, Horace Greeley is, nevertheless, eminently worthy of respect. In an age of shams, it is no small merit to speak what one believes to be the downright truth. For advocacy of every real or presumed social improvement, fearlessness in the exposure of abuses, and independence of principle, few papers equal the *Tribune*; and if we do not always agree in the editor's opinions, we never rise from a perusal of his well-filled pages without having been both amused and instructed. Of no man, more than Horace Greeley, could it be properly said, that even 'his failings lean to virtue's side.'

FERNLEY HALL:

A TALE.

MARY VAUGHAN returned from her morning-walk, and went into her father's study as usual, to see that he was comfortable. And, as usual, Mr Vaughan's gray head was raised when he heard her step in the room, and he said, with a little smile: 'Well, my girl, what news from the village?'

'I don't think there is any news in the village, papa; but there is something going on at the old Hall.'

'Decay and overgrowth. Anything else?'

'Nay, papa; if what I suppose be true, decay and overgrowth will soon give place to repairs and gardening. I do believe the old place is let.'

'I daresay you may have heard some one talk about it. I have heard many people, in the course of the last fifteen years, talk of taking Fernley Hall. It is a very attractive place from a distance, but no one likes it on examination. Tenants are not inclined to rebuild another man's house, and it would require little short of rebuilding to make it habitable. Colonel Fernley neglected the old place shamefully, as he neglected other things it was his duty to care for and cherish.'

'But, papa,' said Mary, 'I really do think the place is let now. As I was passing along the fence by the shrubbery, I heard people walking inside, and some one said: "Very well, Mr Burrows; I like the place well enough to agree to the terms. Next Monday, then, I shall send in a builder to make an estimate of the necessary repairs, and he shall set his men to work immediately. This is March; by the end of June, I shall hope to move in." Then I heard Burrows mumble some reply; and the next minute, just as I was passing the little gate in the fence, it opened from within, and Burrows came out with a gentleman. He was a stout, middle-aged man, with a heavy, respectable face, a gold-headed cane, fine white linen, and a new coat. In short, papa, he is my ideal of a millionaire.'

'Millionaires often do very extravagant things; and so a millionaire may hire Fernley Hall and rebuild it;

but if he is a man of sense, he will think better of it after next Monday.'

Mary Vaughan and all the village of Fernley 'were ware,' as the old ballads say, of a builder in a gig on the following Monday. He drove through the village, and put up at the Black Horse, and proceeded thence, without loss of time, to the house of Mr Burrows, who accompanied him to the old Hall, whence the builder did not return for three hours, when he went back to the Black Horse, ordered his gig, drank a glass of ale, and drove away. He would have gone without telling anything of what the whole village was burning to know, if the landlord, John Brown, had not ventured to say as he attended him to the door: 'I hope, sir, ye'll be going to set the old Hall to rights?'

'I'll try what I can do. I shall put some workmen in directly. Can I have a bed here occasionally?'

'Ay, sir, that can ye. What's the name of the gentleman as is coming to live here?'

'Fielding—Dr Fielding. Good-morning, landlord. Stand clear, boy.'

From that time, chaos seemed to have come again in Fernley Hall and its grounds. All through March and April, bricklayers, carpenters, and gardeners were swarming about the old place, plastering, hammering, digging, and cutting down all day long. They were kept pretty diligently at the work by Mr Burrows and the builder; and by the time 'the flowery May' had smiled away half her reign, old Fernley Hall began to smile too, under the influence of fresh order and array. There was every prospect that the leafy month of June would see it a habitable and inhabited dwelling of genteel, if not of aristocratic pretensions.

Mr Vaughan the curate, and his daughter, took cognizance of all that was going on, and were as much interested in the matter as it was natural they should be. For it is an important thing to a country clergyman and his family whether the great house of the parish be inhabited, and by whom, especially when there are no educated persons in their immediate neighbourhood.

One evening, about the middle of June, Mary Vaughan had tempted her father away from his books, to take a walk with her.

'Which way are we to go, Mary?' he inquired as they stepped into the road.

'Why, papa, I want you to go and see the improvements in the grounds at the Hall. Mr Burrows has given me the key of the little gate in the fence, so that we can let ourselves in, and walk there as long as we like.'

Mr Vaughan made no reply, but drew his daughter's arm within his, and turned towards the old Hall. Arrived at the gate in the fence—well known to Mr Vaughan of old—Mary took the key from her pocket, and fitted it in the lock. In another minute, they were sheltered from the dazzling sun, beneath the over-arching greenery within the enclosure.

'How delicious!' exclaimed Mary, and immediately taking off her bonnet, she seemed to be at home in that woodland. It was part of a large plantation or shrubbery, which used to be called the Wilderness, because the old occupiers had left it to nature, that it might snatch a grace beyond the reach of art.

'Do you remember this place, Mary?' asked her father, looking about with a countenance where curiosity strove with sadness.

'Very well, indeed, papa. You know I was ten years old when the Fernleys went away; I am twenty-five now. Everything looks much as it did then.'

'That is because you have grown as well as these trees. I am very glad the people who have had the management of the repairs, have had the taste to leave this Wilderness untouched.'

'Dr Fielding gave special orders that they were not to lop a bough or disturb a weed here, except on the path.'

'I am happy to hear it, my dear.' And Mr Vaughan began to walk along the path mechanically, with his eyes roaming right and left among the trees and underwood.

His daughter followed him in silence, for she had an intuitive feeling that her father's heart was full of the thoughts and feelings of by-gone years, suggested by the place in which they walked. She remembered when she, a little child, filled her pinafore with primroses and blue-bells which grew under those very trees, while he walked slowly beside a lady there. How sweet and kind that lady was! How graceful, and how fair! Yet hers was almost the saddest face Mary Vaughan could remember; and the thought of Miss Fernley always made her sorrowful. She wondered now, how in her childish years she had thought it so fine a thing to be a grown woman and Colonel Fernley's daughter—to ride on horseback, and drive in an elegant carriage!

Mary kept pace with her father, and thought of Grace Fernley. 'I remember her as well as if she had never gone away. "Either the future or the past is written on every face," says the thoughtful German. On hers both the past and the future must have been legible to my father, for I am sure he loved her. Yes; the regrets of the past, and the apprehensions of the future, were in the soft radiance of those blue eyes as she used to look at him when they talked together here. I suppose he knew then that she was going to be married. Mr Burrows says she was as much sold as any other part of the property, to pay her father's debts, and to keep the old Hall in the family. And this is the result. For fifteen years, Colonel Fernley has never been near the place, but has been living a disreputable life abroad; his daughter, who married to save him, as he called it, has been living in poverty no one knows where.' At this point of her musing, Mary Vaughan ventured a question to her father.

'Papa, do you think we shall ever hear of Mrs Robertson again?'

Mr Vaughan paused, and then replied slowly: 'Yes, my dear, I have reason to think we shall.'

'Oh, papa, do you really? May I ask what reason you have?'

'Merely this, my child: she told me, before she went away, that she would come back to Fernley; though it were only to die here.'

'She loved this place very much?'

'It would seem so, since she made so great a sacrifice to retain it in her family.'

'Then Mr Burrows and every one else is right—Miss Fernley did not love her husband when she married him? Papa, surely that is a great crime in any woman—a double crime in one who was born so noble and so wise, and had every advantage of moral training? It is an unpardonable crime in a woman to marry one man when she loves another!' exclaimed Mary indignantly; the more indignantly, perhaps, that she had never thought of the conduct of Miss Fernley in that light before. She had been accustomed to reverence and to pity her.

Mr Vaughan looked up at his child for a moment in some surprise, and then said solemnly: 'Do you remember who it was that said: "He that is without sin among you, let him cast the first stone at her?" You know not that fellow-creature's temptation, and should be slow to measure her guilt. Do not fall into that grievous sin—the pride of virtue.'

'Oh, papa, how good you are! You, whom she has caused to suffer so!—'

'Hush, my child; the past is past.'

'Not all past—it darkens your present; will, perhaps, spread a blacker gloom over your future; for you, father, are of those whose affections change not. Father, I am a woman now; no more a child. I cannot see you unhappy without thinking why you are so.'

She put her arm through his, and looked fondly into his face. It was very pale. It might be only the green shade of the trees that made him look so wan; but his eyes were closed as if in agony, and Mary whispered tenderly: 'Have I hurt you by touching on this subject? Ah, forgive me, dear, dear father. I have spoken rashly—cruelly. I did not know that—Lean on me, dear father.' She looked about for a resting-place, for he seemed to be fainting, and she could not support his weight. She drew him as well as she could to the root of an old tree which formed a sort of seat; he sank down, and reclined there motionless. There was something in his aspect which frightened his daughter, and she ran hurriedly towards the house in search of assistance.

The workmen had all left the premises, and the stillness of sunset lay on the lawn and front of the house as she emerged from the shrubbery and looked eagerly around. No one was to be seen; and she was about to return, when the splashing of the fountain in the centre of the lawn reminded her, that if she could carry some water with her, she might restore her father so as to enable him to walk home without help. Then she recollected a report she had heard in the village that morning—some people of Dr Fielding's household, a housekeeper and some other servants, had arrived, and were already setting the rooms in order. She looked along the line of windows, that glittered so clean and new in the sunlight, but saw no human being. She hastened round to the well-remembered servants' entrance, and quickened her step as she heard voices. Two young women sat by an open window on the ground-floor drinking tea; they ceased talking, and stared at her.

'Can you give me some hartshorn, and a jug to carry some water? A gentleman has fallen ill—fainted in the shrubbery.'

They both jumped up, as if willing to lend aid, but looked stupid.

'Give me that jug,' said Mary, pointing to one on the table. 'I will fetch some water from the fountain, and one of you can bring some hartshorn, if you have any. Is there a man in the house?'

'No; there's only us and Mrs Smith the housekeeper: she keeps doctor's stuff. I'll just run and tell her, and she'll come with the hartshorn, and bring the gentleman to.'

Mary hurried to the fountain, and was soon beside her father with the water: she found him in the same position. Her anxiety gave place to alarm, when she found that he did not stir when she sprinkled water on his face and chafed his hands. His appearance was corpse-like, and poor Mary trembled as she looked on that beloved face.

'Father, father!' she cried; 'open your eyes; give me one look!'

She heard footsteps behind her, and saw one of the damsels to whom she had just spoken carrying a basket, and accompanied by an older woman. 'Quick! quick!' she cried in a nervous whisper; 'he has been long insensible.'

'Don't be alarmed, my dear young lady,' said the housekeeper in a calm kind voice; 'I daresay he will be better presently. Ann, come and help me to lay him flat on the ground.' And she knelt down, and put her hands on his shoulders. At this moment Mr Vaughan opened his eyes for an instant, and startled the housekeeper so much, that though upon all ordinary occasions she was the calmest and most mechanical creature in the world, she uttered a slight cry, and started back in considerable agitation.

'He do look terrible deathly, indeed, miss!' said Ann to Miss Vaughan in a frightened whisper, when they had assisted Mrs Smith to place him at full length on the ground. 'It's a'most like laying out a corpse.'

Mary shuddered; and, with the housekeeper's help, took her father's head upon her lap, and began to loosen his neckcloth and bathe his temples. In the meantime, good Mrs Smith took restoratives from her basket, and poured brandy down his throat, and applied hartshorn to his nostrils. In a minute or two the patient heaved a sigh.

'He's coming to, poor gentleman,' said Ann; 'but he'll never be able to walk this day. Does he live far off, miss?'

'We live at the other end of the village. Do you think my father will be able to walk so far?' inquired Mary, appealing to the elder of the two women, whose quiet decisive movements had already inspired her with respect.

'No; he cannot walk home. I will go and inquire for a carriage of some sort.'

'Is that you, Mary?' said Mr Vaughan faintly, opening his eyes and closing them once more. 'Where am I?—what has happened?'

'You are in the grounds of Fernley Hall, father. You have fainted, and I was obliged to go for assistance. Do you feel better now?'

'Yes, my dear. Who was that with you just now?'

'Only some kind women who happened to be at the Hall, and who came at once to help me. One of them is beside you now.'

Mr Vaughan opened his eyes, and after gazing at Ann vacantly for a moment, closed them again: 'Is no one else with you, my dear child?'

'Yes, an elderly person—Dr Fielding's housekeeper has been here. She has gone now to find a carriage to convey you home.'

'Has no one else been here—no one but strangers?'

'No, papa. You must ask no more questions now,' she added, as she saw him looking eagerly about as if in search of some one.

Ann presently produced a little more brandy, which she insisted on Mr Vaughan's swallowing. 'Mrs Smith had ordered her to give it, and she dare not disobey. Mrs Smith was so particular.' That done, Ann took up her position, basket in hand, beside the father and daughter, until some one came. Such having been her orders from the housekeeper.

Mr Vaughan still remained with closed eyes, resting his head on Mary's lap; Mary watched him in silence, and thought of many things—of the uncertainty of life; of her father's sadness, and his love for her; of her mother, who had died before she could remember, and who might have been the sunshine of his days had she lived. Then she thought of the old dwellers at Fernley Hall—the gay dashing colonel and his lovely daughter. They were exiled, and new people were come to fill their places. Then she thought of Grace Fernley's marriage—a marriage without love, that could not come to good. The recollection of all she had noted in childhood, and tried to forget for so many years, combined with her father's sudden indisposition when she had spoken of Miss Fernley and her marriage, to make her feel sure that it was a secret but strong love for that lady which had weighed so heavily on him all these years—which had kept him a curate in the old place, when he might have had good livings elsewhere. 'He will not leave Fernley, I know,' she said to herself; 'and he has told me the reason now. He expects that one day Grace Fernley will come back to the Hall, or, if not there, to the village—perhaps worn by sorrow and sickness, perhaps in want. Ah! I have never been able to make him forget her. I shall be worse than useless to him then. I had better think of the situation Dr Fielding offered me as governess to his daughters.'

Just then the sound of wheels was heard on the pathway, and presently a man appeared drawing an old garden-chair.

'Mrs Smith could not come back herself, but sent

me with this to carry home the poor sick gentleman. Why, it's Mr Vaughan! Why didn't she tell me that, and I'd ha' come quicker.'

'Mrs Smith's like me,' said Ann, with a toss of her head; 'we come from London, where people don't know everybody's name they chance to meet.'

'Ah, to be sure, ye're all new to our place. Can he help himself at all, think ye, Miss Vaughan?'

'Yes, Barnes—thank you,' said Mr Vaughan feebly.

'If you will lend me your arm, I can get up; but I fear you must draw me home in that chair.'

Mary's support on one side, and Barnes's strong arm on the other, were sufficient to place Mr Vaughan in the little vehicle; and followed by Ann, who seemed to enjoy the adventure, they proceeded to the gate by which Mr Vaughan and Mary had entered the grounds of Fernley Hall. The latter dismissed Ann with thanks and a little money; and then walked home beside the chair, with a full heart and mind, and a clouded brow.

'What's come to you, too, Miss Mary?' asked their old servant, some time after they had returned. 'You look as if you had had an upset too. Where have ye been this evening?'

'Only into the grounds of the old Hall, Deborah.'

'Ha! it's ill walking on bad folks' land.'

'Do you call the Fernleys bad folks, Deborah?'

'Ay, that do I—chick and child. What's bad, if it's not bad to drink and swear, and let a goodly estate go to the dogs, and then take rent for it from a retired doctor? What's bad, if it's not bad for a young lady to break a good man's heart—to love one and marry another? But it's no use talking, child. What's done cannot be undone, and the least said is the soonest mended. We're none of us too good, and had each best mind our own business. By the same token, I'll go and mind mine. Somebody's been tapping twice at the back-door.'

Mary lingered in the kitchen, with the intention of inciting Deborah to talk more freely about Miss Fernley, or rather Mrs Robertson; but hearing Deborah return along with some one, Miss Vaughan slipped away to her own room, being in no mood to listen to the grievances of some poor villager; and she had given orders to Deborah not to disturb her father unnecessarily that evening. He was lying on the sofa in his study, reading or musing, and had wished to be left alone.

The person who accompanied Deborah was Dr Fielding's new housekeeper, and Deborah treated her with the respect due to her office and respectable appearance.

'Thank you, ma'am; master's pretty tolerable again now. We are much obliged to you for your kindness. I should have done just as you did; there's nothing like a little brandy in such cases. His pulse is too low; he reads and thinks too much; and he's very sad and melancholy, poor gentleman.'

'His daughter!'

'Oh, she's a very good daughter, but she isn't a wife; and he wants a wife—some one nearer his own age. Miss Mary is a lively girl, and living here, moping away all her days in this village where she has no companions, is spoiling her temper. She wants a change.'

'Dr Fielding has grown sons and daughters.'

'Well, that's good hearing; but they may not think a poor curate's daughter good enough company for them, especially if they are not real gentry.'

'But they are,' interrupted Mrs Smith, smiling a little. 'I have brought a note from Dr Fielding to Mr Vaughan: it only requires "Yes" or "No" in answer. I should be glad to have it to-night, if Mr Vaughan is well enough to read my master's note.'

'I will go and see,' replied Deborah graciously; for she liked Mrs Smith's appearance, and thought it

would be a pleasant thing to be on good terms again with the housekeeper at the Hall.

'You may shew the housekeeper—Mrs Smith, is that her name?—in here,' said Mr Vaughan. 'I should like to thank her for her attention to me. Bring in some cake and wine presently, and candles. I can scarcely see to read this note.'

Mrs Smith still stood near the door of the little study after Deborah had closed it behind her. Mr Vaughan rose from the sofa, and said kindly: 'Take a seat, Mrs Smith; I am glad to have this opportunity of thanking you for—'

He paused in surprise; for she stepped quickly across the room to him when she found they were alone, and took his hands in hers.

'You do not know me yet, old friend? Suffering has changed me more than you.'

There was something in her voice which awoke an echo in his heart. He trembled, and drew her towards the window, that he might see her face. The lingering twilight, as she removed her bonnet, shewed a face that still retained traces of beauty, but so completely mingled with those of time and sorrow, that the expression must have been greatly changed. A few marks of the small-pox, some faint lines on the brow, a pale complexion, mild yet firm eyes, hair sprinkled with gray and neatly braided under a widow's cap: such were the specialties of a portrait on which Mr Vaughan gazed with a bewildered look.

'You do not know me, I see,' she said, turning away; 'and if you do not know me, no one else here will.'

'Stay yet a moment—look at me once more.'

She looked him steadily in the face, with head erect, as in the days of old. Ah! he knows her now. His eye brightens, his cheek is flushed, and his voice is choked with emotion, as he speaks once more.

'It is—it is—Grace Fernley! Merciful Father! this is—this worn and sorrow-stricken woman is, indeed, that fairest child of thine!' He covered his face with his hands, and she saw the tears trickle through his thin fingers. She remained motionless, and watched him. Presently he looked up at her, and said gravely: 'Why have you come to me?'

'I came to ask forgiveness, Vaughan.'

'I loved you, Grace: there is no need to ask forgiveness of me.' The gentle tenderness of his tone was indescribable.

At these words her pride and strength broke down; she sank on the nearest chair, and burst into tears. He drew a seat beside her, and whispered words of consolation in her ear. After a time, she recovered, and looking hastily round the room, as if she feared intrusion, said: 'Do not let any one see me; I would not be known. But I must speak longer with you this night.'

'I will see to it.' And he left the room, and returned with some wine, having taken it from Deborah, and told her not to interrupt him, and to tell his daughter that he was engaged upon business of importance. When he was seated beside his visitor again, she began in a low broken voice, which grew steadier as she proceeded.

'You remember as well as I do the day of my ill-starred, wicked marriage; when I promised to love and honour a creature whom I despised, to gratify a vile pride of race.'

'And, as you thought then, to save your father from ruin, and preserve him in honourable condition for life?'

'True, I did think that; but I was blinded by ambition and a cold heart. I had no excuse; for were you not near to love and guide me—you, who were truly all a woman could desire in a husband? I married Glanville Robertson, and you have been well avenged. For seven years I bore the burden: at the end of that time, I escaped from him.'

'So I heard. You had no children?'

'No; God be thanked! I left him to his luxury and his infamy: he was in Paris. I fled to England—to Scotland, and strove to earn my bread.'

'Why did you not come to me—to Fernley?'

'I dared not; I was too wretched. Besides, I was still young, and you might have felt your old love revive. I was married—blighted—unfit for you and your child!'

'But why not go to your father?'

'Ah, you do not know that worst, cruellest affliction. I could not live with him. His house was no fitting home for any but women lost to all self-respect. I had tried my utmost before to win him from his vices; at that time he was at his worst—and I avoided him. I took the name I now bear, and got employment as governess—companion—housekeeper, in various families. My husband sought for me in vain. A year ago, he died. I heard that my father was in England searching for me—seeking for the pittance that fell to me after his debts were paid from my husband's estate. I saw him. I will not attempt to describe that interview; but you can imagine it, when you remember what my father was when angry, and that the wicked always feel contempt for each other when they have been unsuccessful. A few months later, he wrote to inform me that he had at length found a purchaser for Fernley Hall.'

'Is it sold?' asked Mr Vaughan.

'Yes, my friend,' she replied sadly; 'it is now Dr Fielding's property. It is a just punishment to me. I committed a crime to retain possession of the old place, and, by a strange but intelligible decree of Providence, I have come to serve in the house where I was formerly mistress. They are good people, these Fieldings, and will bring a blessing with them to the place. If it please God, I will work a while, and then die as I hoped to die—in Fernley, in the old Hall.'

'No; in this parsonage, Grace.'

'Hush, Frank Vaughan, that cannot be. My heart is swollen nigh to bursting now at your kindness, at my own unworthiness. Henceforth we must be strangers. Mary will not know in Mrs Smith the former Miss Fernley; no one in the place will know me. We shall meet in the church on Sundays, and you will pray for me.'

'And may we not meet elsewhere?'

'No. But there is a service, pressing and immediate, I would ask of you this night ere we part. My father lies dead in London: will you, for the sake of old times, go and see him laid decently in the earth? There is money, for he died penniless; and unless the body be claimed by his friends, it will be buried by the parish in which he died. He has no friends save myself and you.'

'I will go to-morrow. Give me the address.'

'It is written in the letter which you have not yet opened. All particulars are given there. Good-night; I must not stay.'

'Not stay! Who has a better right to stay in my house?'

'Your daughter. For her sake we must be as strangers.'

'But she may not always remain with me. She wearies of this dull household; she may marry.'

Mrs Smith took his hand, and said affectionately: 'It is a sore struggle, as you know, to do right sometimes. I would gladly pass the last years of life with you; but for Mary's sake, and for your own fame's sake, I will not come to you now. When she marries, or leaves you, I will come and be your housekeeper—your nurse—your wife—if you please; and I will then declare myself the last of the house of Fernley.'

Two years afterwards, the bells of Fernley church rang joyfully. Dr Fielding's eldest son married Mary,

the handsome daughter of the curate. Mr Vaughan himself performed the ceremony; and after the bride and bridegroom had departed, and the wedding-guests had gone to the Hall to dance and make merry, he remained alone in his little study to compose his mind after the emotions of the day.

He had not been alone more than an hour, when 'Mrs Smith from the Hall' stepped into his apartment and said: 'Do not disturb yourself; Deborah knows all. I have come to fulfil my promise.'

The good curate smiled. 'Mary prepared me for this. She is most anxious that you should be known for what you are. Again there will be a marriage of old people—but when you smile and are happy, you don't look old, Grace—that shall not be unwise nor ridiculous. We will go to London together, and return man and wife. As Mary may one day be mistress of Fernley Hall, you may draw your last breath where you drew your first.'

'And my old age, thanks to your goodness, will be more blessed than my youth.'

WEIGHING THE EARTH.

THE old mechanist wished for a fulcrum that he might move the earth—modern science rests contented with finding a balance in which to weigh it. This curious operation has been performed more than once—by Cavendish, in the last century; by Dr Maskelyne, who took a Scotch mountain for his counterpoise; and by Vietch, the German, in a Munich cellar; but with by far the greatest care and accuracy in a house in Tavistock Place, London, by the patient hands of Mr Baillly, the late president of the Astronomical Society. That gentleman was indeed picked out for the task from among the best scientific professors of England; and the cost of his experiments was partly defrayed by a grant of £500 public money, specially appropriated for the purpose.

As the article to be weighed is a ball of four-and-twenty thousand miles, or thereabouts, in circumference, and so heavy as to keep the lady-moon playing round it like a stone in a sling—to say nothing of making a little disturbance, as we are credibly informed, among the far-off satellites of Jupiter—it may be worth our while to learn how its weight can be ascertained. The scales, also, in which that process is accomplished are likely to be novel and curious in their construction; for clearly you cannot weigh the earth as you would a pound of plums.

There are two or three ways of weighing anything. You may do it directly, by taking a lump of lead which you know beforehand to weigh a pound, and putting it into one scale counterbalance it with a quantity of other matter on the opposite side, which quantity, supposing your balance to be true, must weigh an exact pound too. Or you may do it indirectly, by marking the effect which the pound-lump produces in bending a spring, twisting a wire, &c.; and then trying how much greater or less effect of a like sort is produced by the substance whose weight you wish to ascertain. Of this second or comparative character, is the balance wherein the earth is weighed.

Weight, as we all know since the time of Newton, is merely attraction; every particle of matter attracts every other particle—that is, pulls it towards itself. This pull becomes stronger as the particles come nearer one another, 'in the inverse ratio of the square of the distance.' The more particles, again, there are in any body, the greater will be its attractive force. A cannon-ball is 'heavy' because it contains many particles, and also because the earth contains many, and they all pull towards each other; hold up the cannon-ball, and hang another globe between it and the earth, this globe will be pulled two ways—down by the earth, up by the cannon-ball. If, then, we can but

discover how much the cannon-ball attracts the globe as compared with the earth, we shall have the means of computing how much the earth weighs as compared with the cannon-ball; the attraction of the cannon-ball is, consequently, what we want our balance to weigh. As the earth is actually some thousand billion times the heavier body, needs must that the balance be a delicate one.

Delicate, indeed, it is; and yet simple withal. You may make it yourself, if you please; as thus: Take a slender cane or rod of wood, fix two light balls, one at each end of the rod, and tie a hair or silk thread to its middle; fasten the other end of the thread—which is say three or four feet long—to a hook in the ceiling, and let the rod hang freely down, carefully balancing it, that it may rest in a horizontal position. Leave the apparatus to itself for a while, just to give it time to settle; then, if there is no draught of wind, or other disturbance, you will find the rod and balls hanging quite level and quiet; but the slightest touch or breath will set them vibrating and twisting, first one way, and then back again, until presently the rod goes to sleep once more exactly in its former position. The reason of this is, that the thread, being elastic, twists easily upon the slightest impulse, but returns again to the old condition when permitted. By making the rod longer, and using a slenderer thread, the apparatus becomes more sensitive, so that the rod vibrates by an impulse almost inappreciable in any other way; in fact, it becomes a balance of most extraordinary delicacy, with this further advantage, that, in obedience to a very complicated law of mechanical action, the amount of the twisting force can be very accurately computed by marking the time in which the vibrations, or twistings and untwistings, of the rod and thread are accomplished.

The earth-balance consists of just such a hanging rod, so fixed that two massive spheres can be brought nearly close to the balls at each end, but in such wise that each sphere attracts the ball next it in opposite directions. Both attractions, consequently, tend to twist the centre thread the same way. When these spheres are brought near the balls, accordingly the rod twists or vibrates; when they are removed, it goes back again. A few repetitions of the experiment enable us to learn the time occupied in each vibration; thence we compute the attractive force of the spheres; and thence, again, can calculate the weight of the earth.

This is the skeleton of the apparatus which Mr Baillly employed; but in practical working there were a multitude of things to be done or guarded against—of corrections to make, and sources of inaccuracy to trace and cure. A breath of air—a ray of light—the disturbance caused by a man's breathing—the emanations of animal heat from his body, and causes even more minute and unsuspected than these—sufficed to put the instrument out of tune, and render the results of the experiments wholly fallacious. The details which Mr Baillly has given of his various contrivances for avoiding all sources of error, exhibit a wonderful degree of acuteness and ingenuity, and, above all, of patience; at the same time, it curiously exemplifies the extreme delicacy of the problem which he had undertaken to solve.

Some years ago, half Paris was flocking to that Pantheon which is now a church, curiously anxious to see the earth turn round its axis. A monster pendulum was made by swinging a large gilt ball from the inside of the cupola; and as the pointer fixed below the huge 'bob' traced marks upon a ridge of sand, cunningly heaped upon the marble floor beneath the apparatus, and shewed how the vibrations crept round the circle, like the hour-hand of a clock; so, was it said, the earth turned upon its appointed centre. The scene was deliciously impressive: the lofty dome—the 'dim religious light'—the sculptured marbles—the

monumental tablets, inscribed with the names of those 'Grands Hommes' of the Revolution, to whom their country had been so *reconnaissante*, as to undo all they had lived and died in doing—the crowd of spectators—the solemn hush that was maintained among them, wonderful to say, even though the crowd was Parisian—gave to the spectacle all the fitting accessories of an attractive melodrama. Then the apparatus itself: the long pendulum-wire, lost to sight in the darkness of the dome above; the glittering ball swinging, swinging, without added touch of mortal hand; and, finally, those mysterious tracings, recording upon the sand the progress of that eternal revolution by which the Divine ordinance is maintained, that 'day and night shall not cease.' Altogether, there was quite attraction enough to rival—as it did rival for a week or two—the *Seven Deadly Sins*, at the Porte St Martin Theatre, or *Dejazet's* slang and tobacco-smoking in the *Marquis de Leterrière*. This 'Foucault experiment,' as it was named after its ingenious inventor, was for a season the great rage in Paris.

Mr Bailly was able, in like manner, to shew his visitors a great experiment with the earth, by letting them see how it was weighed. As his purpose, however, was to determine a scientific question, and not to open a scientific raree-show, his apparatus was constructed with no regard to dramatic effect; and visitors, especially those of merely curious propensities, were sternly discouraged. There was 'no admittance, except on business,' to the room in which the earth-balance was recording its indications. Even the operator himself entered the place cautiously and reverently—stealing round on the matted floor to his by-corner, whence, by curiously arranged rods and ropes, he performed all the required manipulations, and then 'read off' the results through a telescope. If he came nigh the instrument, his tread, his breath, the beatings of his pulse, the atmosphere of heat and agitation which he brought with him—all tended to disturb the tremulous index, and falsify the conclusions to be drawn from its motions.

By aid of the graphic and circumstantial details communicated by Mr Bailly to the Astronomical Society, and published in their Transactions, we can obtain admission to this chamber of mysteries, and witness what is doing therein, without fear that our presence should seem to increase or diminish the weight of the earth by a few million tons. It is in a house situated not far from the back-entrance to the British Museum, the edifice lies back from the thoroughfare, sheltered by a small garden, and a few yards of space, from the vibrations caused by hasty Hansoms, or lumbering coal-wagons. It is a modest, compact, self-contained residence, only one story high, and with walls of old-fashioned solidity. The Balance-Chamber is an apartment 17 feet long by 14½ broad, and 9 feet high. There is but one door to it, and one window looking north-north-west, quite away from the sun; nevertheless, this window is glazed with double sashes, to prevent sudden changes of temperature, Mr Bailly says—gradual and chronic changes being sufficiently provided for in other ways. Over the inside panes, a thick web of brown paper is pasted, to stop the direct rays of light or heat. No daylight is admitted, any more than other visitors, except on business; for which end a small spot on the glass is left unpapered, whence a pencil of light is allowed to fall upon the division-scale, where and when alone it is of importance to see what is passing. We may notice that the chimney is stopped up at the top, and the fireplace at the bottom. In one corner of the room stands an excellent clock by Molyneux, beating seconds very loudly. Across another corner runs a stout mahogany bar or rail, supporting telescopes for the observer who stands behind it, with the rod-handles and rope-ends placed within convenient reach, so that he can both regulate

and consult the balance without quitting the bar. Against the wall, near him are placed a barometer and hygrometer, the cleverest of their respective species; and the whole room is garnished with thermometers, stuck upon every point likely to suffer from access of heat or cold.

The Balance occupies the middle of the chamber. Externally, it presents only a big eight-sided box, like a gigantic concertina-case, 8 feet across and 4 feet high, all shiny with gilt-paper, hung about with thermometers, and pierced with divers little windows covered with plate-glass. From the centre of the box a sort of chimney, only gilt instead of black, runs up to the ceiling, as if to carry off the smoke. All this, however, is but the outer case of the balance, built round it to keep off draughts of air and radiations of heat. Within, from the floor, there is erected a thick wooden pillar, twirling round like a ship's capstan, but so well supported by iron rings and brass spindles and sockets, as to play quite true and smoothly, without the least shake. Across the top of this pillar lies a strong wooden plank, nearly eight feet long, and helped by braces, and supports of different kinds, to sustain an enormous weight without bending in the slightest degree. At each end of this plank is a shallow saucer, intended to hold the massive leaden spheres, whose weight or attraction we intend to measure against that of the earth; these spheres are called 'Masses' by Mr Bailly when describing his experiments; or, as the manner of mathematicians is, 'M,' for shortness. The whole apparatus—pillar, cross-bar, spheres, and all—can be swung round easily by the ropes leading to 'Observer Corner;' but as the case required that the spheres should swing only through half a turn, there have been notches cut and stops fixed in such positions as to permit of just that amount of twirling, and no more. The spheres or masses are very respectable bullets, larger even than the *Arrow* could throw from its Lancaster-gun: they are of lead, 12½ inches in diameter, and weighing about 380½ pounds. Being most important elements in the future calculations, infinite pains have been taken to insure accuracy and symmetry in these spheres. It is no easy matter to give a perfectly spherical shape even to so small an article as an ivory billiard-ball, how much more, then, with lead globes of nearly 400 poundweights? Mr Bailly, accordingly, has had them made by the celebrated Bramah, the Fimlico engineer. They were cast in iron cylinders five feet high, into which the melted lead was forced up from below, to avoid air-bubbles; and the resulting leaden pillar was cut across into lengths, tested and examined in every way for flaws or hollow places, and being found sound, was roughly cut into balls. These were then turned and gauged in every direction in a huge lathe, and the accuracy of their shape scrutinised all over through a powerful microscope. Afterwards, they were taken to the Bullion Office in the Bank of England, and weighed as if they were gold, only far more carefully, in the accurate scale, made by Haggard, belonging to that establishment. Finally, the spheres were placed in the before-mentioned saucers, but not fixed to them. The apparatus was too firmly built to overset; and as the balls weighed nearly four hundredweights, it was not thought probable that any visitor would carry them away in his pocket.

All this part of the mechanism rose solidly from the floor—the rest is brought to meet it from a great distance. Above the ceiling of the room, a stout inflexible beam has been carried from wall to wall, having its ends firmly bolted, and screwed to and through the wall-plates, and every other available means taken to prevent vibration. From this beam, through the ceiling, and down into the exact centre of the concertina-case, comes the square wooden pipe which looks so like a chimney: it is designed merely

to conduct and protect in its entire length the slender wire or thread, whose twistings are to measure the force of attraction. This is called the suspension-thread, several of which have been used by Mr Baillly made of wires of copper or iron; double or single, of different degrees of fineness; or of silken filaments; in order to vary the conditions of his experiments. Above, the threads were in all cases attached to a screw, which could be adjusted by a rod from Observer Corner; below, they were fastened to a well-balanced slender deal-rod, called the torsion-rod, hanging horizontally above the plank which carries the spheres. The deal-rod has its ends armed with two little balls, one at each, so adjusted as to have their centres precisely parallel, horizontally speaking, to those of the lead spheres, but on opposite sides; so the two—rod and plank—form a sort of letter X, in which the thin stroke represents the torsion-rod, and the thick one the capstan-bar carrying the spheres. The torsion-rod is made as light and slender as was compatible with stiffness; it weighs only 5 ounces, or, more precisely, 2370 grains. For the balls at each end, different substances and weights are employed; there is an ivory set and a glass set; a set of zinc—the lightest available metal; and of platinum—the heaviest. But the heaviest weighs only a few ounces; and all of them, hanging from so long an arm, suspended by so slender a thread, are thrown into vibration at the slightest conceivable impulse—by a breath of air, or, as was intended, by the attraction of the spheres so carefully brought into their neighbourhood. A long, broad, shallow mahogany-box, termed the Torsion-box, with glass ends, is built round the deal-rod, whose movements it shields from disturbance, while it permits the observer in his corner to note their extent and duration through his telescope.

As for the collateral adjustments and precautions: the measures taken to prevent errors from creeping in, or for estimating their effects if they do; the mirrors that reflect back certain marks into the observer's telescope if everything is right; the plumb-lines which 'kiss' the surfaces of the spheres when properly placed, and the microscopes which measure the displacement if they are not; the wires that conduct away all stray electricity into the cellar; the thermometers, barometers, and other weapons from the scientific armoury, which indicate at every point and moment the sources of disturbance and elements of correction that must be duly taken into account in our final computations—we need not puzzle the reader with a particular description. Enough to say, that no cause of discrepancy or error observed, suspected, or hypothecated, has been overlooked. Allowances are made for all, according to estimates framed by the most distressingly acute mathematical analysis; while every detail is carefully noted down and left on record, in order that future computers, with, if possible, sharper suspicions and acuter processes, may revise and amend the calculations.

Very regular and business-like are the operations which Mr Baillly is obliged to perform day after day, and month after month, before he can venture to announce that he has really weighed the earth. No merchant's clerk is called upon to display more minute punctuality, to keep more careful accounts, or to execute duties more systematic, or, if the truth must be told, more monotonous. But the idea of the grand result to be worked out, reconciles our philosopher to all his labours, however irksome; to perform a great experiment, as well as to achieve a great reputation, a man must consent 'to scorn delights and live laborious days.' On coming down to business every morning, Mr Baillly begins by making a round of examinations, and entering sundry items in his day-book: the state of the barometer, thermometer, and hygrometer; the direction and pressure of the air, and other meteorological queries are asked, just as if his apparatus was an old friend, whom he politely greeted every morning

with, How do you find yourself to-day? Fine weather, isn't it? or the reverse, as the case might be: only that, in this case, the answers are really listened to and carefully jotted down. These out-of-doors matters settled, special attention is paid to the working-machinery within: minutely is it scrutinised at all points, to discover whether every screw is tight, every joint easy, every plumb-line perpendicular; whether all the divided scales are accurately placed to the zero-point, and every microscope true to its focus. The torsion-rod is then looked at, to see if it has gone askew during the night; if so, as is generally the case—the rod being prone to nocturnal dereliction—the adjusting screw is worked to bring it right again. As it is, however, impossible to keep the rod exactly in its right place, we are obliged to compromise the matter, by bringing it as near as we can conveniently, and thus making a note of the divergence. This will form a sort of petty cash-balance, either on the debit or credit side, to be duly allowed for during the day's transactions. After examining his mirrors, and peeping through his telescopes, Mr Baillly feels at last satisfied that everything is safe and honest about. Then begins the real work of the day: the spheres are swung round, and back again; the torsion-rod vibrates in obedience to their attractive influence; angles are measured, and seconds counted; and one result after another is noted down in the journal. If any serious change takes place in the atmosphere; if the thermometer rises, or the barometer sinks, to any noticeable extent, a black line is drawn across the book, and a fresh group of experiments begins, in which the new phenomena are duly estimated. Should any change still more violent take place, such as a thunder-storm or snow-storm, Mr Baillly shuts up his shop, and leaves off business for the day. While the air is disturbed, his experiments are worth nothing; so he makes holiday, and waits until the weather gets settled, either for rain or fair, frost or thaw.

The recorded process of every day's work left by Mr Baillly, testifies to a most praiseworthy amount of industry. Eighteen months passed, and 1300 experiments were tried, before the gold paper was put on. All this was labour in vain; but Mr Baillly, having conquered his difficulty, started afresh with unsubdued energies. Afterwards his progress was again interrupted for several weeks, by the consequences of a deplorable accident: the reckless driver of an omnibus in which he was a passenger, hurriedly whipped on his horses, as the manner of the tribe is, before Mr Baillly had taken his foot off the step in descending. He fell heavily upon the earth, whose density he had not yet ascertained, and was removed to the Charing Cross Hospital, near which excellent institution the catastrophe happened. There, and at home, he remained confined for a long period—at first considered in danger of his life, and subsequently recovering by slow degrees that measure of health and strength which he was ever permitted to regain. Happily this was sufficient to enable him to resume his laborious course of earth-weighing experiments. In Mr Baillly's journal, the accident, so nearly perilling his life, is very briefly recorded: on June 21, he relates, his trials 'were suspended on account of an accident' at the 964th experiment; and on August 7, they were resumed at the 965th. In the same journal are jotted down the nature and succession of the many groups and series of experiments which he compelled his apparatus to perform: there were so many with silk suspension-lines, and so many with wires; so many with a single, and so many with a double suspension; so many with a light torsion-rod, and so many with a heavy one; so many with platina-balls, so many with lead, and so many with zinc, glass, or ivory ditto. The best scientific and mechanical talent of the day was eagerly placed at his disposal, either to perform services or suggest expedients: his spheres were cast and turned

in Bramah's foundry and lathes; his apparatus was built by Cubitt; his clocks furnished by Molyneux; the platina-balls which he wanted were lent from Greenwich Observatory; and the Greenwich astronomer-royal was always at hand, either to devise the mathematical formulæ, whereby the intricate problems incessantly demanding solution could be disentangled and computed, or to afford general advice as to the means by which the experiments could be varied, and the earth-balance still further tortured and tested, so as to wrest from it the very essence of truth.

Discarding all the preliminary experiments, as well as every other which from any cause seemed untrustworthy, the great mass of trials whose results were finally incorporated into the grand mean or average, occupied from 24th January in one year, to 8th May in the year following. They comprised 2153 single issues, grouped into 62 series, forming what Mr Baillly truly calls a 'long labour' of nearly four years' duration, reckoning the time occupied in preparations, imperfect essays, and still leaving no small amount of work to be performed, in the shape of reduction, correction, and computation.

The earth-balance, whose performances we have been describing, was compounded of contrivances invented at sundry times by divers clever men. Coulomb, many generations ago, used the twistings of a silk fibre to measure the delicate forces of electric or magnetic attraction. The application of the same principle to weigh the earth, was first suggested towards the close of the last century by the Rev. J. Mitchell, who, in dying, bequeathed the idea to the celebrated philosopher Wollaston; and he, again, after devising a fit apparatus for the purpose, transferred the proposition to Cavendish, by whom the instrument was actually constructed. His apparatus was built in a room closely shut and kept quiet, while the results were watched through a telescope, by an observer standing without. The experiments, with their computations and results, are detailed in the *Philosophical Transactions* for 1798, though completed some years before. More recently, M. Reitch constructed a similar instrument in a cellar at Friburg, where it could swing coolly and undisturbed; and read a report of his experiments therewith before the German Scientific Association, at their meeting in Prague in 1837. But Mr Baillly's experiments are far more carefully elaborated, and consequently more faithful, than either of his predecessors.

Some other methods, based on essentially different processes, have been employed for weighing the earth. Our own Newton suggested a means which depended upon the vibration of a pendulum swung at the top of a high mountain. This was tried under the auspices of the French Academy, with the elevated assistance of Chimborazo. Dr Maskelyne, as we have already mentioned, solved the problem in another way—by balancing the weight of a large mountain against that of the earth. After much search for a suitable mountain, he fixed upon Schiehallion, in Perthshire. His method of proceeding was highly ingenious; but it laboured under this disadvantage—that the doctor did not accurately know the weight of Schiehallion itself; he took it for granted that his mountain was all rock, and of the average density of rock—that is to say, two and a half times heavier than water. The earth's weight was computed from his tables, accordingly, by the mathematician Hutton, upon that understanding. Subsequently, however, Professor Playfair and Lord Webb Seymour, having an opportunity of seeing further into the inside of the mountain, found that it weighed more than had been supposed, and recomputed the result, making the figures 45 of the original calculation into 50; and even this is now known to be too little. Altogether, the result given by Mr Baillly is the best and truest we can collect from any quarter. In time

to come, indeed even his computation may be superseded by others still more accurate, as we learn that Professor Airy, the astronomer-royal, has planned a series of experiments, to be conducted in the profound abysses of some coal mine, from which a more faithful report of the earth's weight may in due course be transmitted to her surface.

And now, after all, what *does* the earth weigh? Mr Baillly states in big figures upon the last page of his book, that 'D. [meaning Density] = 5.6747, with a probable error not exceeding .0038.' Translated into words, this formula implies that the earth, as she rolls, is on the average somewhat more than five and a half times heavier than she would be if composed entirely of water: being double the weight of the densest rocks found on the surface; not much less than that of the lighter metals zinc or tin; and about half the weight of lead. This calculation, also, we learn therefrom, may be relied upon for accuracy within four parts out of every thousand. If we want the weight set forth in tons avoirdupois, we find the following pretty row of figures:—1,256,195,670,000,000,000,000,000 tons weight; or, in words—one quadrillion, two hundred and fifty-six thousand one hundred and ninety-five trillions, six hundred and seventy thousand billion tons avoirdupois.

All the noughts in this rank of figures must be left unfilled, seeing that we cannot pretend to compute the exact weight of the earth within the thousand billion tons or so; for letting alone Mr Baillly's 'probable errors,' as he himself admits, in the calculations, we cannot rely on our own means of precisely ascertaining even the small weights over which we have perfect control. For example, one great unit for estimating all other weights is the cubic foot of water: if in weighing this—and its weight is 62½ pounds—we make a mistake of only the *hundredth part of a grain*, the resulting difference in the earth's weight, as computed upon that basis, will be magnified into an error of 385 billion tons! Vain, then, are attempts to arrive at greater accuracy within this vast limit.

These are numbers which the imagination fails to grasp. We might twist and present them in a hundred ways: we might compute how many times heavier is the earth than St Peter's at Rome, the Menai Bridge, the Ghizeh Pyramids, or other of the human fabrics whose solidity is our boast; but, after all, we should get no better realisation of the mighty mass. The figures must stand as they are in all their nakedness; their number makes them an arithmetical marvel—that they have been computed at all, has been little short of a scientific miracle. But the human mind falls baffled and bewildered long before it can comprehend the immensity of the weight they represent. After weighing the earth, we cannot *realise* the enormity of its weight; and yet the earth itself is but an atom in the universe!

THE LITTLE FIREBRANDS.

As soon as it was announced that the Russians had crossed the Danube and entered the Dobrukscha, in Bulgaria, terror and consternation spread through the towns and villages along the coast, and the inhabitants prepared for flight. When the news reached Admiral Dundas, he despatched a small squadron, consisting of Her Majesty's steam-frigate *Firebrand*, and a few others, to cruise along the coast. The order was to 'sink, burn, or destroy everything Russian'—this crossing the Danube being considered a declaration of war. When the *Firebrand* reached Kustendji, the officers landed, and found the affrighted inhabitants about to desert their homes. One of the officers has described the scene to us as most curious and affecting. Each family having secured a morsel of its property as the hurry and confusion permitted, 'they were

drawn up,' he tells us, 'in a long wavy line; and most strange and melancholy was the spectacle they presented. Animals of every kind, and vehicles of every description, were put into requisition. There was the aga, or Turkish governor, a venerable old man, with snowy beard and flowing robes, heading the cavalcade, in an almost European-looking phaeton; immediately after him, a pair of beautiful dromedaries, bending beneath their heavy loads, and surveying the scene around with their large, clear, intelligent eyes, the very pictures of patience; then came arabas drawn by oxen, and filled with little children; men on horseback, mules with panniers, camels, asses, cats, and dogs, in strange confusion. Among the objects not the least remarkable, and evidently the most cared for, were several beautiful Persian greyhounds, led carefully by the hand, and clothed in handsome body-clothes. They are in form as graceful as our own, and with long beautiful feathered tails; and are very valuable and difficult to procure. More varied than the animal creation were the strange specimens of humanity which accompanied them—black, brown, and white, Turks, Jews, and Christians. The beauties of the harem—for once careless of the Giaours' eyes—and rendered more beautiful by the contrast with their hideous thick-lipped Indian attendants, who were holding in their arms lovely Greek children, with coin-studded hair. In the train were daughters of Israel, some of beauty as peculiar as it was remarkable. The men, equally various, were all well armed.

Any one acquainted with Eastern warfare, would feel at once assured that no such scene could be without the omnipresent Bashi-Bazouk, the personification of the ancient Harpy. He always appears to the unfortunate a bird of evil omen; alike to him is friend or foe; and he is the dread of both, for he is cruel, cowardly, and sanguinary. Armed to the teeth in the most fantastic manner, and with the oddest weapons, he ranges about without a home, revelling in all the more horrid scenes of uncivilised war. These irregular troops may be considered more as banditti than anything else; instead of being hailed as the protectors of such places as are left in their charge, they are abhorred and dreaded as thieves and assassins. Their system of warfare is mere murder and rapine. When their commander was expostulated with for having suffered them to parade the heads of the Russians they had killed on the point of their lances, he replied with perfect sang froid, that it was the custom of the corps, and that the Russians might do the same by any Bashi-Bazouks they might happen to take. Among the chiefs of that lawless band, Kara Gazel, an old Kurdish woman of seventy-four, mounted on a splendid charger, leads 400 Kurds; she is said to possess great wealth and indomitable courage. She uses her firearms with the utmost adroitness; her face is uncovered; and she ridicules her countrywomen for hiding themselves with veils—telling them they should throw them away, and attend their husbands to the wars. It is said to be in contemplation to organise and discipline those wild troops, and even to reform them by coercion if other means fail. Already, it is stated, an improvement is perceptible. Some of these men are described as of splendid appearance, admirably proportioned, and with finely set heads: such are of Caucasian origin; while others are hideous Nubian negroes and Arabs of sinister and malignant aspect. Among them are also Marabouts and fanatics from Mecca—3000, divided into five regiments, were encamped near Varna—presenting a wild and picturesque appearance. All these watched from a distance the melancholy cavalcade at Kustendji deserting their homes, and setting forth on their sad and weary journey of many days towards the south. The men were well armed; so they fancied themselves safe from the attacks of the cowardly Bazouks. An

officer, who had gone on shore without arms, wandered away from his companions, and had a narrow escape. One of these ruffians rode up to him, and drawing out his pistol, prepared to fire, that he might appropriate to himself the gold chain the officer wore. The latter called out that he was English, and pointed to his ship, which was in the bay; whereupon the Bashi-Bazouk immediately galloped off, but soon returned with one who appeared to be his chief; and who, on hearing that the English officer wished to purchase poultry, made an offer of whatever was to be had as a free gift. As neither party intended that advantage should be taken of the handsome offer, nothing was accepted that was not instantly paid for. In about an hour, the vessel sailed. Some of the people still remained in the village.

The *Firebrand* returned two days after; and having put inshore, an appalling scene was beheld—dead and mutilated bodies were stretched along the beach; and in a caïque (boat) filled with poor people, who were escaping by water from the town, in preference to accompanying those who were going by land, all were wounded, and nearly dead from ill-treatment, hunger, and exhaustion. Measures were instantly taken for their relief; and five, who were the most desperately wounded, were carried on board the *Firebrand*, that they might have the advantage of medical care. The Bashi-Bazouks were the perpetrators of these horrors; for after the *Firebrand* sailed, the ruffians entered the town, broke into the spirit-stores, and then went about shooting men, women, and children indiscriminately.

Among the wounded brought into the ship were two little children, whose father and mother had been killed. Each wore a mother-of-pearl cross, which betokened that their parents had been of the Greek Church; one of the boys was four years old, the other two months. The elder had five slugs in his arm, and the flesh was actually scorched, from the closeness of the piece from which they had been fired. The infant had a ball through his tiny wrist; he had been at his mother's breast when she was killed; and the same ball which deprived her of life, wounded the little creature in her arms. He was so famished, that when he came on board, and saw the boy bringing up some pap, he stretched himself out so far over the cot, with his mouth open like a bird to receive its food, that he tumbled out, and would have fallen upon the deck if he had not been caught. A woman severely wounded in the breast, her husband, and a desperately wounded man, were landed, at their own request, at Varna; and, constrained by motives of humanity, although evidently unwilling to incur the responsibility, offered to take charge of the children. Captain Hyde Parker, however, who commanded the *Firebrand*—a man who was as remarkable for goodness of heart as for his dauntless and noble spirit—at once determined to adopt the little orphans himself; and from that moment they were domiciled in the ship. They were, in compliment to their new home, named after it—John and George *Firebrand*. They were attended with unremitting care by the medical officers. Poor Johnnie lay in his cot, suffering with a degree of patience which could not have been expected in one so young, only uttering occasionally an exclamation in Greek expressive of pain. Many weeks passed before he could be taken out of his cot; but he got better by degrees, and is gradually recovering the use of his arm. The infant's wound was more easily cured, his bones not being sufficiently formed to be so much injured. A goat was procured for Georgie's special use, and he did great credit to his nurse; for at the age of thirteen months he had a complete set of teeth, so efficient that he could crunch the hardest sea-biscuit with perfect ease. His case was considered by the medical men worthy of attention, more especially as the teeth had been cut without the usual pain of dentition. Whether there

was any deposit in the nutriment of the goat likely to facilitate the formation of the teeth, would be a difficult question to determine. Georgie is now eighteen months old, a strong healthy child, walking alone, and beginning to speak. To the unremitting care of Mr M'Sauly, the assistant-surgeon, the successful rearing of this little creature is due; if he had been his own child, he could not have watched over him with more tenderness. It seems to be the nature of sailors to befriend all who are in need of assistance, and they are specially remarked for their tenderness to children. It may be supposed, therefore, that there was no lack of petting on board for Johnnie and Georgie. The officers might have been seen rummaging their chests for articles to be made up into dresses for the children.

In a few months after Captain Hyde Parker had taken charge of the little brothers, they lost their generous protector. He fell on the 7th of July, at the Sulina—honoured, loved, and lamented by all who knew him. Those who had served under him could not restrain their tears when he was consigned to his last resting-place; and not the least touching part of the scene was the presence of the children of his adoption, who were carried in the arms of the sailors to witness the last rites. Many were the dangers these children encountered while on board. They were several times under the enemy's fire, and on one occasion the infant had a very narrow escape. During an engagement, he had been taken to the top of the boiler, which, being tolerably protected from shot, was considered a place of safety; but a 68-pounder penetrated the deck, and struck the boiler close to the child.

Johnnie has a decidedly martial turn, not altogether unmixed, as it is feared, with Bashi-Bazouk tendencies; for, not content with one weapon, he tries to carry as many as he can collect, and does not think himself properly equipped without a musket, pistols, and a sword. Whatever chance bits of ribbon he picks up, he hangs about him in every direction, and then struts to and fro, fancying himself the beau-ideal of an efficient sentinel. He is a fine intelligent child, with an intellectual head, and is already making rapid progress in English. After the death of Captain Hyde Parker, there were others who would have adopted these interesting children, but the Queen signified her gracious intention of taking them under her own protection; and so far as children may be judged of, we may anticipate that she will find them deserving of her sympathy.

Johnnie is an apt pupil; for besides having learned to go through the musket and cutlass exercises with great precision, he can repeat various verses, and recites 'O'er the glad waters of the deep blue sea' to the admiration of his auditors. This he has always ended with a hurrah! and three cheers for Miss Hansan. The young lady thus complimented, had taken a great interest in him when she saw him at Constantinople, and made him a present of several pretty dresses. When Her Majesty had signified her gracious intention, Johnnie was told that the three cheers must no longer be for Miss Hansan, but for the Queen; but Johnnie would not prove unfaithful to one who had been so kind; so, after three cheers for the Queen, he never would omit, 'and a cheer for Miss Hansan.'

The children took leave of their good friends; and left the *Firebrand* for England, accompanied by their attendant *Boy Silcox*, who volunteered to take charge of them to Her Majesty. The parting moment, we may be sure, was one of regret to the children, and to those who, in the kindness of their hearts, had made themselves their playmates. And have they not been missed by the fine-hearted sailors? The looks sent along the deck, as if in quest of something they were accustomed to meet, answer the question; and the officer, too, who stands by the gunwale—it was he who taught Johnnie many of his

pretty verses—he misses the little boy he used to take upon his knee, while he repeated 'O'er the glad waters of the deep blue sea;' and he is thinking of little Johnnie, and hoping all manner of good for him. Even since the above was written, they have arrived in England, and have been transferred by Colonel Phipps to the care of a nurse who lives in a cottage near Osborne. Life, therefore, looks bright for the little orphans; but in all its changes, we may be sure the strange events of their childhood will never be obliterated from their memory; and often, with those they love gathered about them, they will tell of the disastrous fate of their family, and of the welcome they found in the vessel sailing in the Black Sea. Yea, the young Firebrands will always love to speak of that gallant ship and its generous crew.

THOU ART GONE TO THE SHORES OF THE SERAPH'S LAND.

BY THE REV. JAMES GILBORNE LYONS, LL.D.

A tribute to the virtues and genius of Benjamin Davis Winslow

Thou art gone to the shores of the seraph's land,
To the sacred place of the righteous band;
Thou hast fled afar, like some forest bird
When the leaves of her dwelling are rudely stirred;
Thy lyre has dust on its ruined string,
Thy bride is sad in her flowery spring,
Thy foot—unseen on the temple floor,
Thy voice—unheard at the poor man's door.

Young Soldier of Truth! thou didst raise thy shield,
With its blood-red Cross, on a stormy field;
Thou didst look unmoved on the banner'd throng,
When the friend was cold, and the foe was strong;
In the front of the battle we saw thee stand,
With a fearless heart, and a forward hand;
We did hope that the glories of coming years
Would cluster about thee—we thought not of tears.

But go: it was better to die thus young,
When thy praise was loud upon every tongue;
It was happier far than to linger on,
Till the bloom and freshness of life were gone:
Since the seal was set on thy noble brow,
Thou hast kept thy promise, and paid thy vow,
And, when suns and systems shall fade and fall,
Those works of thine shall outlive them all.

RING ON THE FOURTH FINGER.

The idea of wearing rings on the fourth finger of the left hand, because of a supposed artery there which went to the heart, was carried so far that, according to Levinus Lemnius, this finger was called *Medicus*; and the old physicians would stir up their medicaments and potions with it, because no venom could stick upon the very outmost part of it but it will offend a man and communicate itself to the heart. . . . It is said by Swinburn and others, that therefore it became the wedding-finger. The priesthood kept up this idea by still keeping it as the wedding-finger; but it was got at through the use of the Trinity, for in the ancient ritual of English marriages, the ring was placed by the husband on the top of the thumb of the left hand, with the words, 'In the name of the Father;' he then removed it to the forefinger, saying, 'In the name of the Son;' then to the middle finger, adding, 'And of the Holy Ghost;' finally, he left it, as now, on the fourth finger, with the closing word 'Amen.'—*Edwards's History and Poetry of Finger-rings.*

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